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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,437		Herfried Lammer	2418.0128-00	4755

7590 04/23/2002

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Washington, DC 20005-3315

EXAMINER
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CHIU, RALEIGH W

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 04/23/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/918,437

Applicant(s)

LAMMER, HERFRIED

Examiner

Raleigh Chiu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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### DETAILED ACTION

#### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on 01 August 2000. It is noted, however, that applicant has not filed a certified copy of the 0016596.8 application as required by 35 U.S.C. 119(b).

#### *Specification*

2. The following title is suggested: --Racket with self-powered piezoelectric damping system--.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. <sup>1-10</sup>Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,775,715 (Vandergrift) in

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view of U.S. Patent Numbers 5,857,694 (Lazarus *et al.*, hereinafter Lazarus) and 5,869,189 (Hapgood, IV *et al.*, hereinafter Hapgood).

Regarding claim 1, Vandergrift teaches that it is known in the art to use a piezoelectric system as a vibration damping device in skis. Vandergrift fails to disclose its use with tennis racquets and does not show a self-powered piezoelectric system.

However, it would have been obvious to one of ordinary skill in the art to employ the Vandergrift system in the frame of a tennis racquet in view of Lazarus who teaches the equivalence of using piezoelectric materials in both skis and tennis racquets for the purposes of vibration damping. See Figures 1a and 10 of Lazarus.

Regarding the self-powered system, Hapgood teaches that such self-powered piezoelectric systems are old and well-known in the art for their ability to be easily connected to the control electronics even when embedded in a large structural component and their compatibility with standard structural composites without reducing mechanical performance. See Hapgood at the bridging paragraph between columns 3-4 and the subsequent text at column 4, lines 17-26. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the

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Hapgood piezoelectric system for the one disclosed by Vandergrift for the reasons set forth above.

Regarding claims 2-4, Lazarus shows in Figure 10 the desirability of using two piezoelectric elements in the racquet throat area; Figure 1 of Hapgood shows a piezoelectric transducer 11 connected to a circuit 22.

Regarding claim 5, Figure 1 of Hapgood shows layers 11,12 which can be broadly considered as a protective coating.

Regarding claims 6, 7, 9 and 10, as Lazarus shows the circuitry to be located within the racquet itself and as Hapgood clearly shows that the control circuitry can be situated anywhere with respect to the transducers, and as applicant has not disclosed that having the circuitry in a specific location solves any stated problem, it would have been an obvious matter of design choice to place it in the end cap of the racquet handle. The material displaced from the handle to accommodate the circuitry broadly corresponds to the recited slot; the shape of the actual space is not considered to be critical.

Regarding claim 8, Figure 8A of Lazarus discloses the concept of protecting circuitry using foam.

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**Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raleigh Chiu whose telephone number is (703) 308-2247. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Sewell, can be reached on (703) 308-2126.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3579.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



Raleigh W. Chiu  
Primary Examiner  
Technology Center 3700

RWC:dei:feif  
18 April 2002